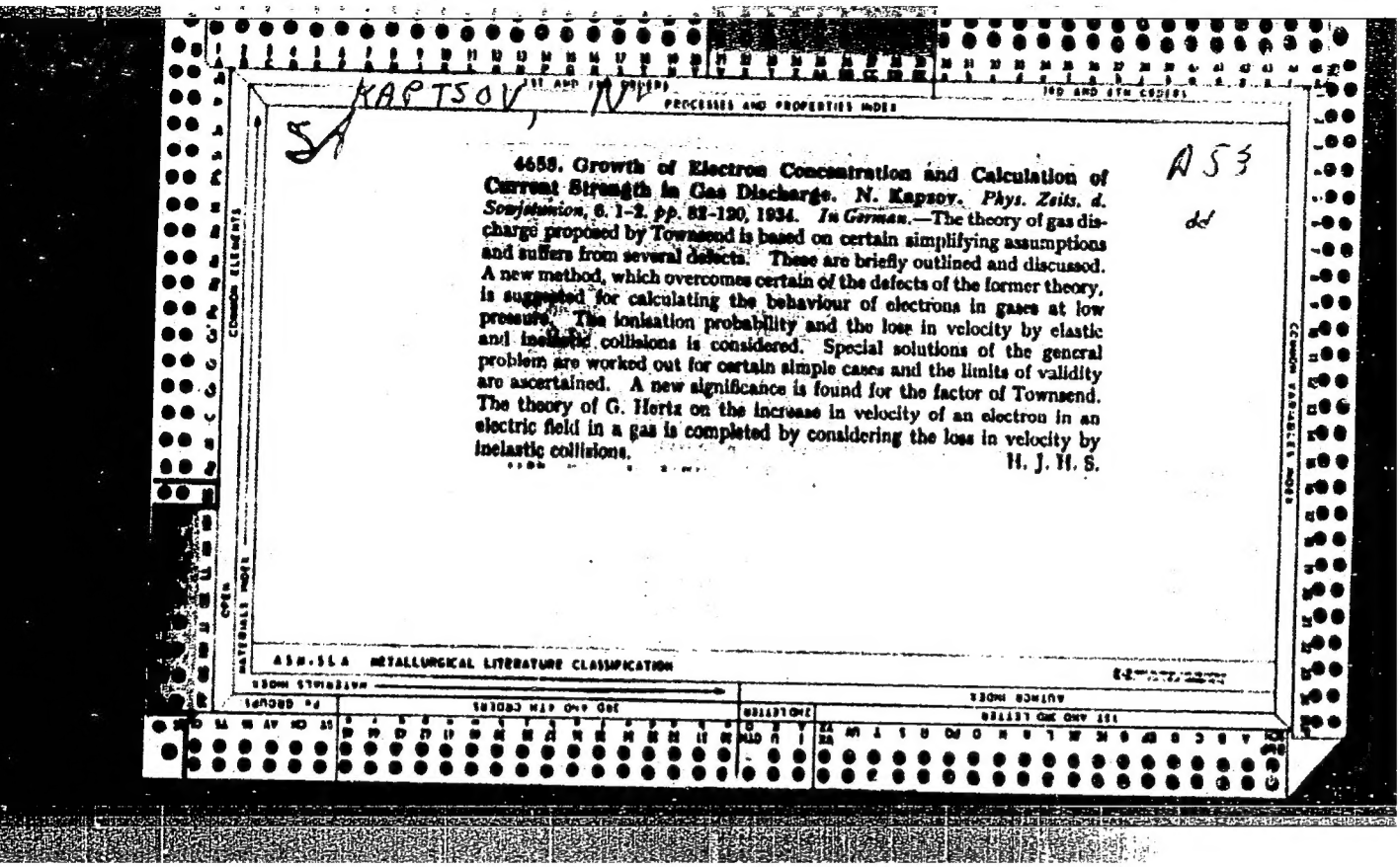
"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4



KAPTSOV, N.

PROCESSES AND PROPERTIES INDEX

A53

dd

4658. Growth of Electron Concentration and Calculation of Current Strength in Gas Discharge. N. Kapsov. *Phys. Zeits. d. Sowjetunion*, 6. 1-2. pp. 82-120, 1934. *In German.*—The theory of gas discharge proposed by Townsend is based on certain simplifying assumptions and suffers from several defects. These are briefly outlined and discussed. A new method, which overcomes certain of the defects of the former theory, is suggested for calculating the behaviour of electrons in gases at low pressure. The ionisation probability and the loss in velocity by elastic and inelastic collisions is considered. Special solutions of the general problem are worked out for certain simple cases and the limits of validity are ascertained. A new significance is found for the factor of Townsend. The theory of G. Hertz on the increase in velocity of an electron in an electric field in a gas is completed by considering the loss in velocity by inelastic collisions.

H. J. H. S.

A53-55A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

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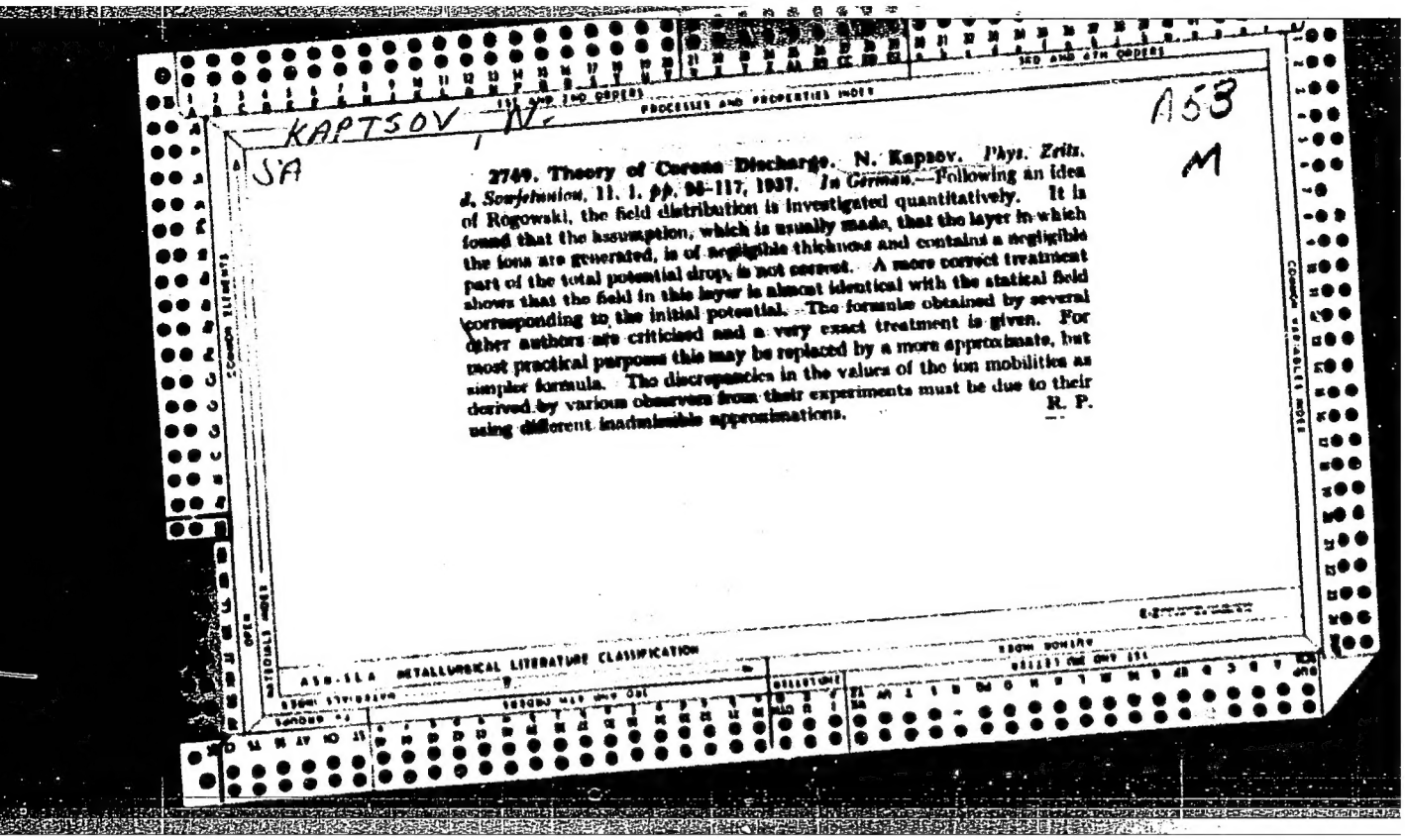


KAPTSOV, N.

A53

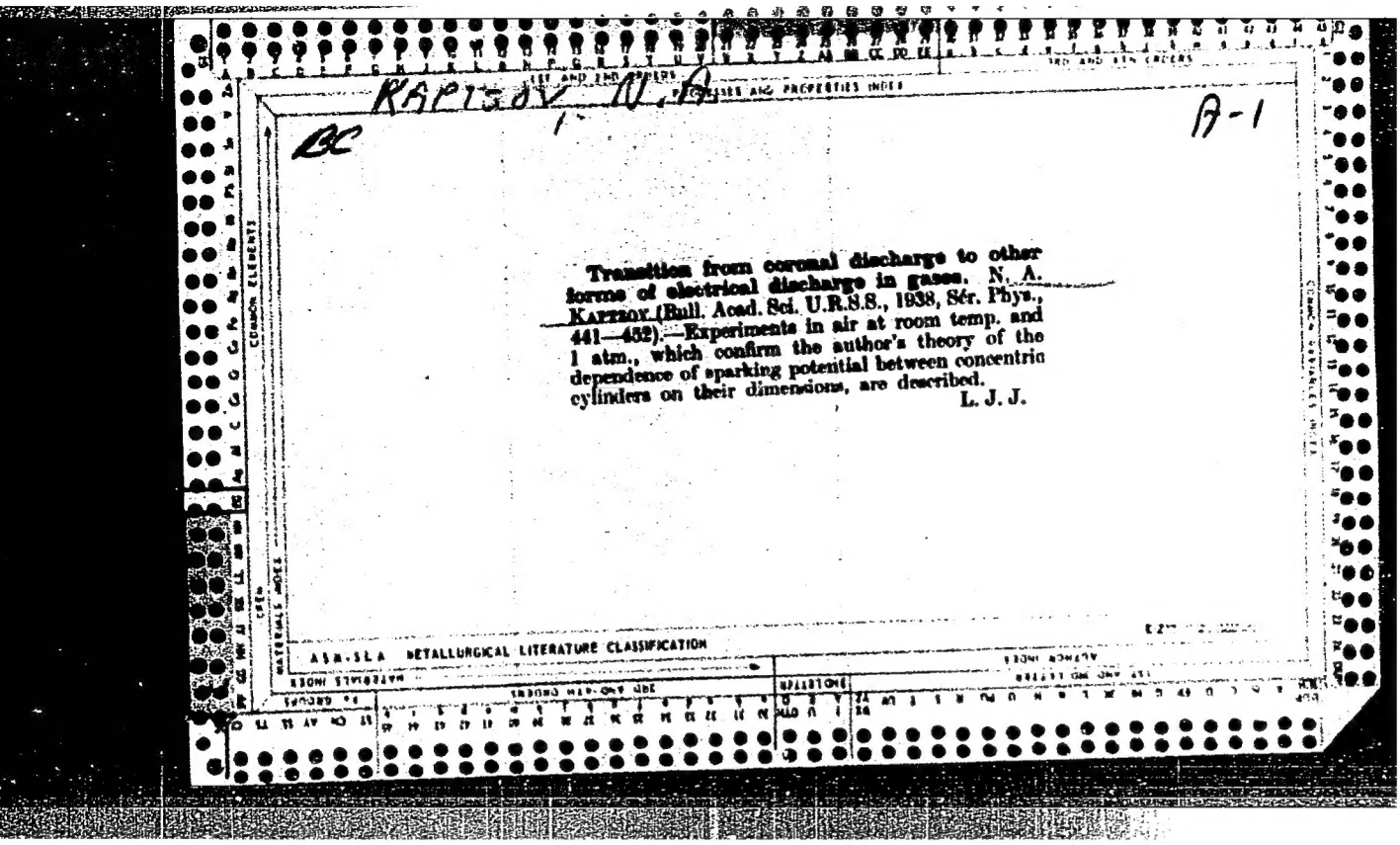
M

SA

2749. Theory of Corona Discharge. N. Kapsov. *Phys. Zeits. d. Sowjetunion*, 11. 1. pp. 98–117, 1937. *In German.*—Following an idea of Rogowski, the field distribution is investigated quantitatively. It is found that the assumption, which is usually made, that the layer in which the ions are generated, is of negligible thickness and contains a negligible part of the total potential drop, is not correct. A more correct treatment shows that the field in this layer is almost identical with the statical field corresponding to the initial potential. The formulæ obtained by several other authors are criticised and a very exact treatment is given. For most practical purposes this may be replaced by a more approximate, but simpler formula. The discrepancies in the values of the ion mobilities as derived by various observers from their experiments must be due to their using different inadmissible approximations. R. P.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4



KAPTSOV, N. A.

BC

A-1

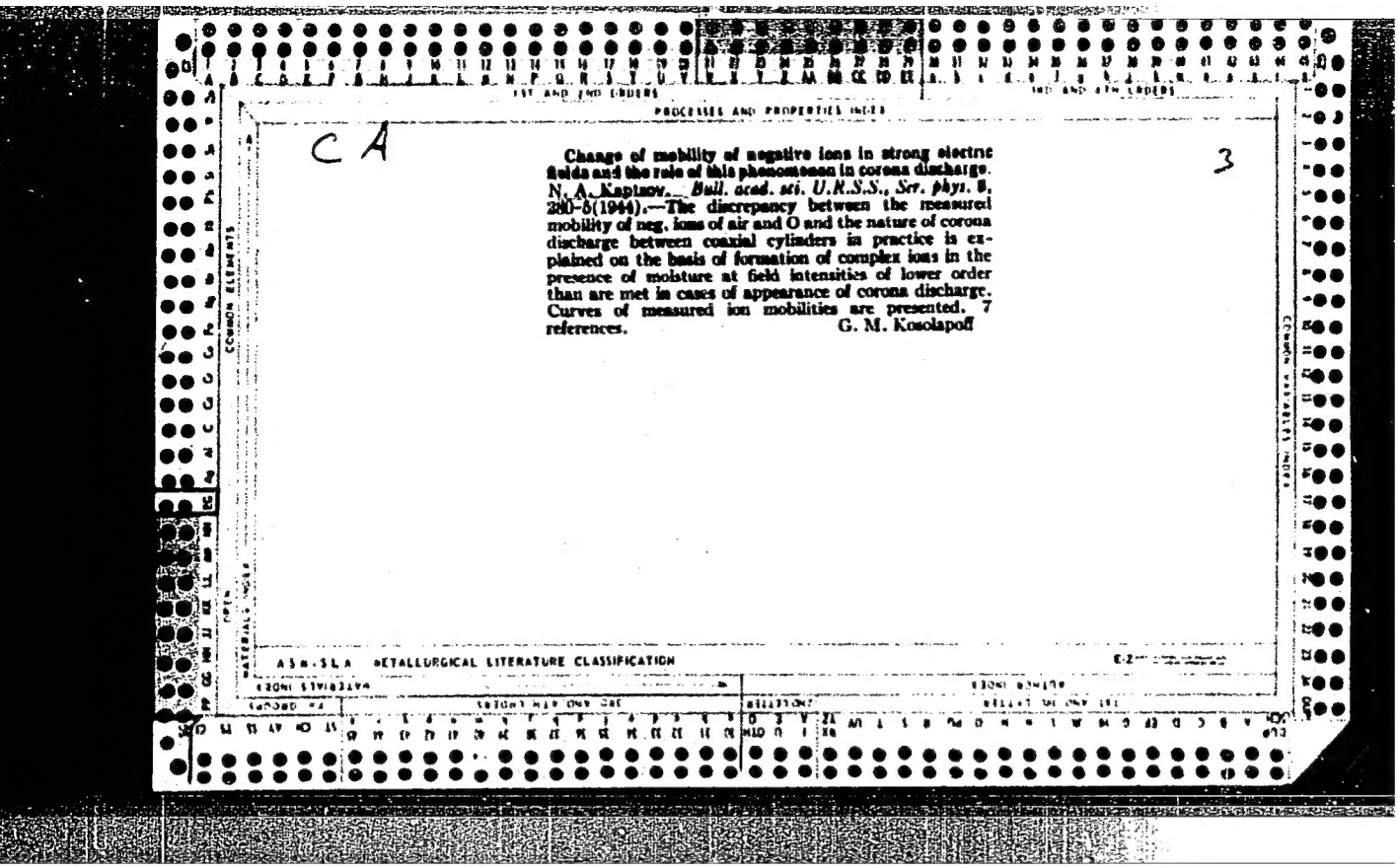
Transition from coronal discharge to other forms of electrical discharge in gases. N. A. Kaptsov (Bull. Acad. Sci. U.R.S.S., 1938, Sér. Phys., 441—452).—Experiments in air at room temp. and 1 atm., which confirm the author's theory of the dependence of sparking potential between concentric cylinders on their dimensions, are described.

L. J. J.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4



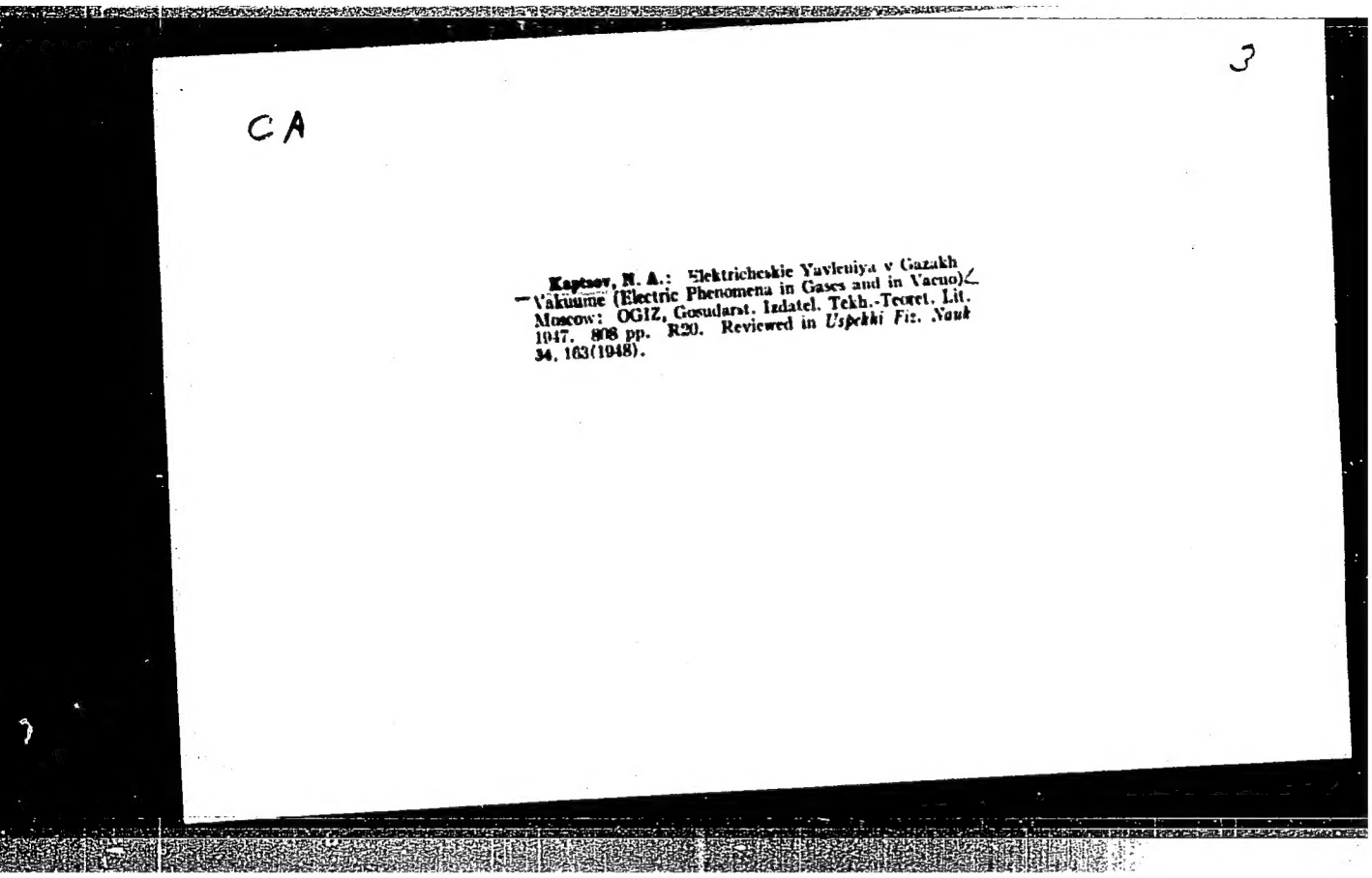
CA

3

Change of mobility of negative ions in strong electric fields and the role of this phenomenon in corona discharge. N. A. Kaptzov. *Bull. acad. sci. U.R.S.S., Ser. phys.* **8**, 280–8(1944).—The discrepancy between the measured mobility of neg. ions of air and O and the nature of corona discharge between coaxial cylinders in practice is explained on the basis of formation of complex ions in the presence of moisture at field intensities of lower order than are met in cases of appearance of corona discharge. Curves of measured ion mobilities are presented. 7 references. G. M. Kosolapoff

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4



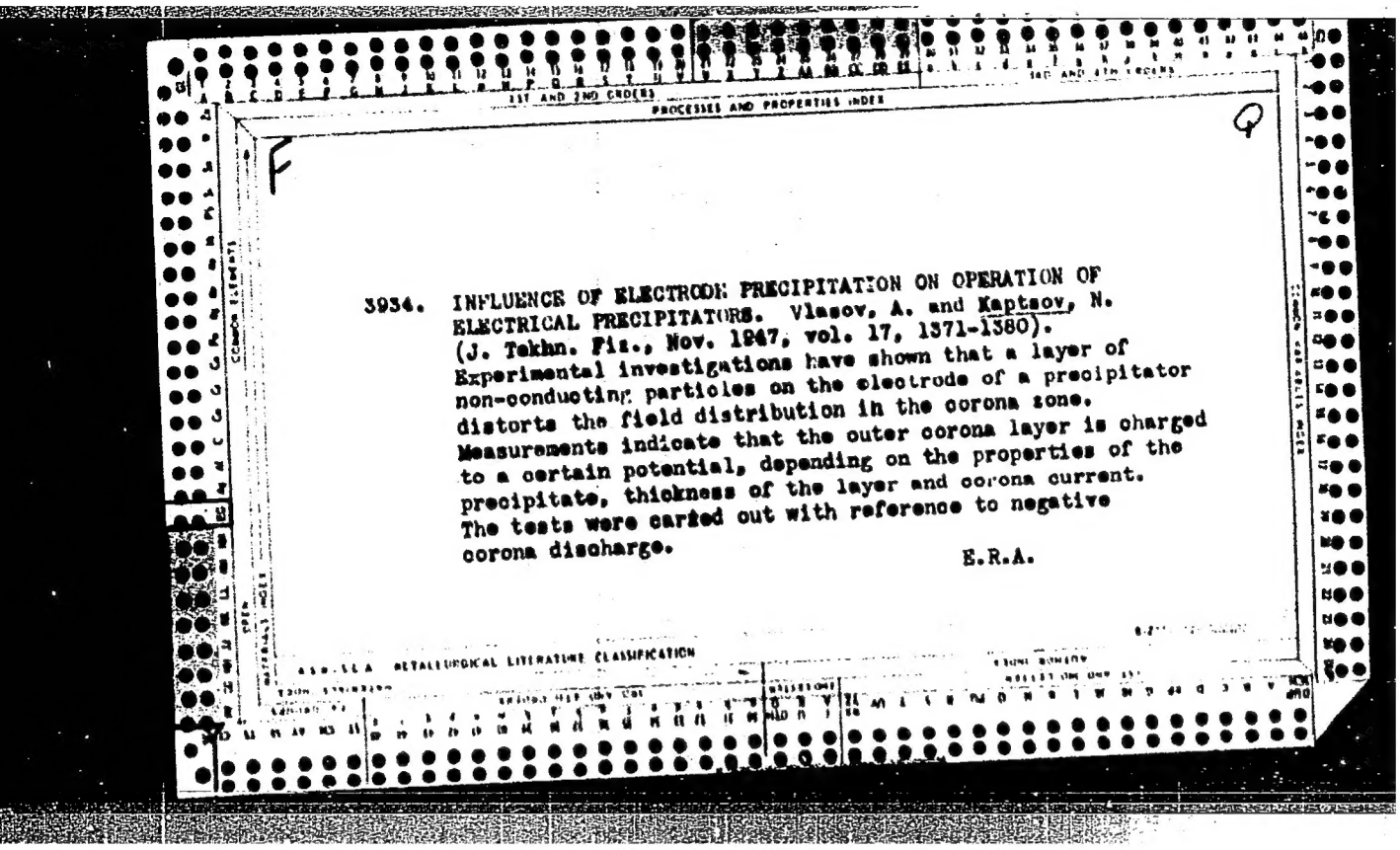
CA

3

Kaptsov, N. A.: Elektricheskie Yavleniya v Gazakh i Vakuume (Electric Phenomena in Gases and in Vacuo) Moscow: OGIZ, Gosudarst. Izdatel. Tekh.-Teoret. Lit. 1947. 808 pp. R20. Reviewed in *Uspekhi Fiz. Nauk* 34, 163(1948).

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

F

Q

3934. INFLUENCE OF ELECTRODE PRECIPITATION ON OPERATION OF ELECTRICAL PRECIPITATORS. Vlasov, A. and Kaptsov, N. (J. Tekhn. Fiz., Nov. 1947, vol. 17, 1371-1380). Experimental investigations have shown that a layer of non-conducting particles on the electrode of a precipitator distorts the field distribution in the corona zone. Measurements indicate that the outer corona layer is charged to a certain potential, depending on the properties of the precipitate, thickness of the layer and corona current. The tests were carried out with reference to negative corona discharge.

E.R.A.

A.S.M.-I.I.A. METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A.

"Electrical Discharges in Gases and Their Use in Technology" (Elektricheskiye razryady v gazakh i ikh primeneniye v tekhnike), "Pravda," 1949, 24 pp.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A., Prof

PA 35/49T28

USSR/Electricity Jan 49
Corona Discharges
Electrons, Motion

"Physics of Electrical Discharges in Gases and in High Vacuum," Prof N. A. Kaptsov, Dr Physicomath Sci, Moscow State U imeni Lomonosov, 16 pp

"Elektrichestvo" No 1 - p. 17-32

Extensively surveys contemporary physical representations of basic phenomena during discharge in gases and vacuums. Discusses current through gases, elementary discharge processes on electrode surfaces elementary processes in gaseous space, and movement

35/49T28

USSR/Electricity (Contd) Jan 49

of electrons and ions in gaseous discharge. Submitted 11 Sep 48.

35/49T28

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A.

"Petr Nikolayevich Lebedev (1866 - 1912")", 39 pp, 1950.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A.

Title: Electric Phenomena in Gases and Vacuum

Author: Kaptsov, N. A.

Mother Organization:

Issuing Agency: State Publishing House of Technical and Theoretical Literature

Location: Moscow-Leningrad

Dates of Issue: 1950; 836 pp.

Holdings--DLC::

ATIC 26604-1

Holdings--Other Libraries

Contents: Theromionic and auto-electronic (cold) emissions
External photo-effect
Ionization and excitation of gas particles in non-expansible collissions of the first and second types.
Radiation of a gaseous discharge
Townsend discharge and the conversion of a discharge from dependent to independent character.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A. (editor); LEB, L.

"Basic Process of Electric Discharges in Gases" (Osnovnyye protsessy elektricheskikh razryadov v gazakh), Gosudarstvennoye Izdatel'stvo Tekhniko-teoreticheskoy Literatury, 672 pp, 1950.

Book W-22459, 22 Apr 52

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV N. A. 181T39

USSR/Electricity - Gas Lamps, High-Pressure Apr 51

"High-Pressure Lamps," N. A. Kaptsov, D. A. Goukh-berg

"Uspekhi Fiz Nauk" Vol XLIII, No 4, pp 620-662

Reviews high-pressure mercury vapor illuminating lamps and describes constr, characteristics and application of high-pressure inert gas-filled lamps.

181T39

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

1. KAPTSOV, N. A.

2. USSR (600)

4. Electronics

7. "Electronics." Reviewed by N. A. Kaptsov. Sov.kniga. No. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A.

Physicists

Recollections of Petr Nikolayevich Lebedev. Usp. fiz. nauk 46 no. 3, 1952

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A.

"Electronics", Gostekhizdat, Moscow, 1953 - 468 pp.

The name of the book is somewhat misleading as it does not appear to be a general textbook on the subject of electronics, but deals with, more particularly, the theory of electronic discharge phenomena in vacuum and gases. The book was intended for the specific purpose as a text for advanced students in radio physics.

Translation summary - XXII - 3

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A.; PETROV, Vasiliy Vladimirovich.

150th anniversary of the appearance of V.V.Petrov's book "News of galvano-voltaic experiments." Usp.fiz.nauk 50 no.2:303-307 Je '53. (MLRA 6:7)
(Petrov, Vasilii Vladimirovich, 1761-1834) (Electricity)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

KAPTSOV, Nikolay Aleksandrovich, 1885-

[Electronics] Elektronika. M, Gostekhizdat, 1954. (MLRA 8:5)
(Electronics)

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A.

FD-742

USSR/Physics - Electric gas discharge

Card 1/1 : Pub 146-12/22

Author : Kaptsov, N. A., and Popov, N. A.

Title : Flash of electric discharge in gases on alternating current of audio frequency in tubes with external and internal electrodes.

Periodical : Zhur. eksp. i teor. fiz., 27, 97-102, Jul 1954

Abstract : Flash and discharge glow in tubes with external and internal electrodes is analyzed in relation to frequencies of applied voltage. Using external electrodes an unstable discharge was found at low voltages and a stable one at high voltages. At a frequency of 10 kc curves of flash voltage vs. frequency tend to overlap. 7 foreign references.

Institution : Moscow State University

Submitted : November 28, 1953

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

Kaptsov, N. A.

USSR/Physics -- Vacuum technology

Card 1/1 : Pub. 86 - 4/40

Authors : Kaptsov, N. A., Prof.

Title : The technology of high vacuums

Periodical : Priroda 43/4, 33-44, Apr 1954

Abstract : The term high vacuum is explained as a rarefication of sufficiently high degree as to permit a molecule to traverse the length of a container without colliding with another molecule. The electrical uses of vacuums are enumerated. A description is given of an oil-filled rotary pump which will produce a vacuum of less than 0.001 mm of mercury atmospheric pressure. For higher vacuums this pump serves for the first stage of rarefication and a mercury pump, a description of which is also given, reduces the atmospheric pressure further. Methods for preserving a vacuum and measuring the degree of rarefication are explained. Illustrations; diagrams; drawings; graph.

Institution : .....

Submitted : ..... Translation M-3,053,44,

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A. Prof.

"Nature of High-Frequency Discharge," a paper delivered at the Section of Radiophysics, Physics Faculty, Moscow University, Conference on Radiophysics, Moscow State University, Vest. Mosk. Universitet, Ser. Fiz-Mat. i Yest. Nauk, No.6, 1955

Sum. 900, 26 Apr 56

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

USSR/Physics - Spectrum of crypton FD-2164

KAPTSOV, N. A.

Card 1/1 Pub. 129-4/20

Author : Devyatov, A. M., and Kaptsov, N. A.

Title : Investigation of the excitation functions of certain spectral lines of krypton

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 10, No 2, 27-36, Mar 1955

Abstract : Up to the present time the excitation functions of the energy levels and spectral lines of a small number of elements have been investigated; namely H, He, Ne, Ar, Hg, Zn, Cd, Na, etc. (1927-1952). In the present work the authors determine the relative functions of excitation of certain spectral lines of krypton by an optical method. They describe the procedure of the experiment and experimental arrangement; the results obtained are shown in 17 graphs (excitation function for various Kr lines and wave lengths). Fifteen references; e.g. four by B. M. Yavorskiy (1944-1947); A. N. Zaydel', V. K, Prokof'yev, and S. N. Rayskiy, Tablitsy spektral'nykh liniy (Tables of spectral lines), GITL, Moscow-Leningrad, 1952.

Institution : -

Submitted : September 4, 1954

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A., professor, (Moskva)

Ivan Filippovich Usagin. Fiz. v shkole 15 no.5:90-91 S-O '55.
(Usagin, Ivan Filippovich, 1855-) (MIRA 9:1)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A., professor, doktor fiziko-matematicheskikh nauk.

Electric discharges in gases. Nauka i shizn' 22 no.5:9-11 My '55 (MIRA 8:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Electric discharges through gases)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

SIDOROV, Mikhail Alekseyevich; KAPTSOV, N.A., professor, redaktor; MEZENTSEV, V.A., redaktor; AKHLAMOV, S.N., tekhnicheskiy redaktor

[From shavings to electricity] Ot luchiny do elektrichestva. Pod red. N.A.Kaptsova. Izd. 2-oe. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 61 p. (Nauchno-populiarnaia biblioteka, no.56)
(Lighting) (MLRA 9:9)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

Kaptsov, Nikolay A.

Call Nr: AF 1119832

AUTHOR: Kaptsov, Nikolay A., Moscow State University

TITLE: Electronics (Elektronika)

PUB. DATA: State Publishing House of Technical and Theoretical Literature, Moscow, 1956, 2d ed., 459 pp., 20,000 copies

ORIG. AGENCY: None given.

EDITORS: Alekseyev, D.M. and Murashova, N.Ya., Reviewer: Spivak, G.V., Prof.

PURPOSE: Approved by the Ministry of Higher Education of the USSR as a textbook for students of State Universities. The present 2nd edition of the book is based on the author's earlier lectures at the Radio-Physics Department of Moscow University.

COVERAGE: See Table of Contents

[redacted]

1/1

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

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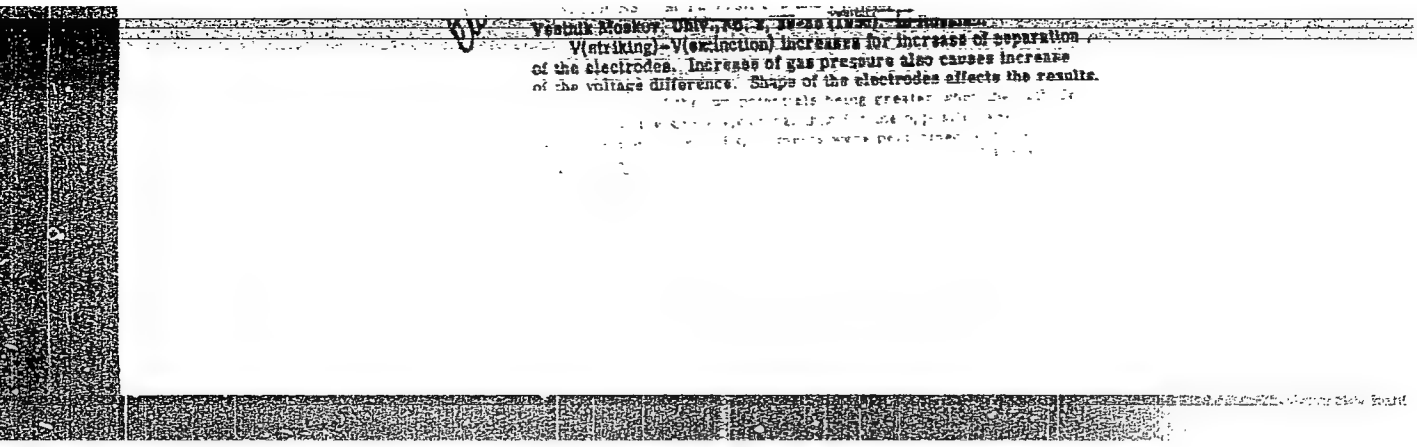

V(striking)−V(extinction) increases for increase of separation of the electrodes. Increase of gas pressure also causes increase of the voltage difference. Shape of the electrodes affects the results.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

Investigation at Low Gas Pressure of an Intermediate Frequency Discharge Occurring Between High Frequency and Low Audio Frequency Discharges. N. A. [illegible] and N. A. Kaptsov. (Zhurn. Eksperimental'noi i Teoreticheskoi Fiziki [illegible] Soviet Physics JETP Sept., 1958 [illegible] 147-155. 16 refs

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

VASIL'YEVA, M.Ya.; KAPTSOV, N.A.

Studying the difference between the igniting and extinguishing voltage of glow discharge under various conditions. Vest.Mosk.un. 11 no.2:29-35 F '56. (MLRA 9:8)

1. Kafedra elektroniki.
(Electric discharges)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

POPOV, N.A.; KAPTSOV, N.A.

Investigation of an intermediate frequency discharge occurring between high frequency and low audio frequency discharges at low gas pressure. Zhur.eksp.i teor. fiz. 30 no.1:68-76 Ja '56. (MLRA 9:7)

1.Moskovskiy gosudarstvennyy universitet.
(Electric discharges through gases)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, Nikolay Aleksandrovich, prof.; PLONSKIY, A.F., red.; MURASHOVA,N.Ya., tekhn.red.

[Pavel Nikolaevich IAblochkov; his life and work] Pavel Nikolaevich IAblochkov; ego zhizn' i deiatel'nost', Moskva, Gos.izd-vo tekhniko-teoret. lit-ry, 1957. 95 p. (MIRA 10:12)
(IAblochkov, Pavel Nikolaevich, 1847-1894)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. A.

"High Frequency and Ultra High Frequency Discharges in Gases."

paper presented at Second All-Union Conference on Gaseous Electronics, Moscow, 2-6 October '58.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

24(3) SOV/155-58-5-27/37

AUTHORS: Kuzovnikov, A.A., Kaptsov, N.A.

TITLE: Discharge Power and the Character of the Discharge Current for Frequencies of 1.5 up to 9 mc

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 5, pp 158-166 (USSR)

ABSTRACT: With the aid of the experimental equipment described in [Ref 1] the discharge power as well as the magnitude and character of the discharge current were measured in the given frequency interval. The discharge arising in the air between a sphere and a plane under atmospheric or lower pressure was investigated. An approximative theory of the appearance is proposed. Among others it is stated : The power necessary for maintaining the discharge increases with increasing frequency of the external electric field. The transition from the corona discharge to the torch takes place under equality of the amplitudes of the active and reactive components of the electron current. An approximative investigation of the directed electron motion is possible, if it is based on the solution of the equation of motion of the averaged electron

Card 1/2

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

Discharge Power and the Character of the Discharge Current for Frequencies of 1.5 up to 9 mc

SOV/155-58-5-27/37

in the electric field under consideration of the coefficient of friction and of the frequency of the natural oscillations of the electrons. The properties of these solutions show good qualitative coincidence with experimental results. In the corona discharge the directed electron motion is stronger than the disordered motion caused by heat ; in the torch it is inverse. There are 5 figures, 1 table, and 16 references, 10 of which are Soviet, 4 American, and 2 German.
Tsyan'Gao Yun, Candidate, and N.N. Bulatova are mentioned.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: June 16, 1958

Card 2/2

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

9(0) SOV/30-59-8-2/56

AUTHOR: Kaptsov, N. A., Professor

TITLE: Gas Electronics - a Topical Field of Physics

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 8, pp 12 - 17 (USSR)

ABSTRACT: The theoretical bases of gas electronics have not yet been worked out. No clear explanations are available concerning the formation of electric discharges in gases. There is no quantitative theory of the formation and propagation of streamers. The problems of the development of high-tension discharges are of special importance. The most powerful ones are produced and investigated under laboratory conditions at voltages of several million volt between the electrodes. The phenomena of ball lightning, electric arc and the discharge at high and superhigh frequency are still to be investigated. The investigation of the state of ionized gas, called gas plasma, is considered to be the most essential problem of gas electronics from the scientific point of view, existing in modern technics. A distinction is made between isothermal and non-isothermal plasma. The formation of electromagnetic oscillations is characteristic of plasma; in this connection

Card 1/2

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

a distinction is made between electron and ion oscillations. Plasma has also magnetic properties. Gas in form of plasma is at present used for the solution of important technical problems. For the purpose of investigating the plasma properties it is necessary to find its parameters under various conditions. However, the solution of this task is possible only on the basis of the joint experimental and theoretical work of a number of physical and technical laboratories and institutes.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A.

P.N.Lebedev and his school. Trudy Inst.ist.est.i tekh. 28: 106-110 '59. (MIRA 13:5)
(Lebedev, Petr Nikolaevich, 1866-1912)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

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PHASE I BOOK EXPLOITATION SOV/4705

Radiofizicheskaya elektronika (Radiophysical Electronics)[Moscow]Izd-vo Mosk. univ., 1960. 561 p. Errata slip inserted. 15,000 copies printed.

Ed.: N. A. Kaptsov, Professor; Tech. Ed.: M. S. Yermakov.

PURPOSE: This book has been approved by the Ministry of Higher and Secondary Special Education, USSR, as a textbook for schools of higher education. It can be also used by scientific personnel working in the fields of radio engineering and electronics.

COVERAGE: The book presents problems of vacuum, cathode, semiconductor, and gas electronics, on which is based the operation of vacuum-tube and gas-filled devices, including microwave devices and also apparatus and instruments used in electron optics. It is assumed that the readers of this book havea preliminary preparation in the fundamentals of nuclear physics, quantum mechanics, statistical physics and electrodynamics. The book was written by a group of lecturers of the Physics Division of Moscow State University.

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Chapters I, II, and III were written by Professor N. A. Kaptsov; Ch. IV. by Professor S. D. Gvozdover and Docent V. M. Lopukhin; Ch. V. by Professor G. V. Spivak and Assistant Ye. M. Dubinina; Ch. VII. by Docent A. A. Zaytsev and Professor N. A. Kaptsov; Ch. VIII. by Professor N. A. Kaptsov and Assistant G. S. Solntsev. The authors thank Professor S. Yu. Luk'yanov and Docent M.D. Karasev , who reviewed the book. There are 76 references: 68 Soviet (including 14 translations), 6 English, and 2 German.

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88045

S/139/60/000/006/009/032
E073/E335

26.2311
24.2120 (1049, 1160, 1482)

AUTHORS: Kuzovnikov, A.A. and Kaptsov, N.A.

TITLE: Investigation of a High-frequency Discharge in the Range Between 1.5 and 15 Mc/s. III

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No. 6, pp. 64 - 70

TEXT: The mechanism of development of a high-frequency corona discharge and its change to a torch discharge cannot be studied solely on the basis of the theory of unbounded uniform plasma (Ref. 1). On the basis of experimental data, published earlier by the authors (Refs. 2, 6, 7), they suggest a mechanism of the development of such a discharge which is based on the conceptions of the avalanche-streamer theory. Application of the ideas of the avalanche-streamer theory to the high-frequency corona discharge at atmospheric and sub-atmospheric (300 - 400 mm Hg) pressures can be justified by the fact that both in the steady-state and in surge corona as well as in high-frequency corona individual localised discharge

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

Investigation of a High-frequency Discharge in the Range Between 1.5 and 15 Mc/s. III

canals can be observed. The characteristics of the high-frequency corona (Ref. 2) are analogous to those of the steady-state (Refs. 3, 4) and surge (Ref. 5) corona discharges. In the earlier work of the authors (Refs. 2, 6, 7) it is shown that on increasing the voltage the high-frequency corona passes successively through the following three main stages (Ref. 2): 1) in the initial stage the discharge is in the form of fine channels which are distributed fanlike on the corona producing electrode; 2) in the second stage a bright central canal and numerous clearly visible side canals form which penetrate deep into the discharge gap; 3) in the third stage a high-frequency arc forms. The mechanism of development of a high-frequency corona discharge was investigated for the frequencies 1.5, 2, 3.7, 4, 6.5 and 8.7 Mc/s. The authors conclude that the mechanism of development of high-frequency corona discharges can be

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Investigation of a High-frequency Discharge in the Range Between 1.5 and 15 Mc/s. III

elucidated on the basis of the avalanche-streamer theory. In the initial stage of the corona and the torch discharge individual, short-length, rectilinear discharge canals form as a result of successive superposition on each other of electron avalanches and also as a result of development of an avalanche canal during oscillatory movement of the electrons under the effect of the high-frequency field. If the voltage amplitude increases to a certain value the formation of streamers in the corona discharge becomes possible. The discharge canals, which can be seen with the naked eye during this stage of the corona, are formed as a result of reforming of the streamer canal, as a result of secondary processes on the temporary cathode or as a result of oscillatory movement of the electrons under the effect of the high-frequency field. Under the given conditions streamer formations and consequently also the formation of individual visible canals of the high-frequency corona occur in the discharge at

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E073/E335

Investigation of a High-frequency Discharge in the Range Between 1.5 and 15 Mc/s. III

atmospheric pressure if the active duration of the half-cycle of the voltage is equal to or greater than 0.03 μsec. The torch discharge is a high-frequency plasma which is formed during numerous half-cycles of the high-frequency field and is drawn out upwards by the convection currents of the air. There are 1 table and 16 references: 11 Soviet and 5 non-Soviet.

ASSOCIATION: Moskovskiy gosuniversitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: October 21, 1959

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A.

Petr Nikolaevich Lebedev's role in the training of young scientists. Usp.fiz.nauk 77 no.4:582-588 Ag '62.
(MIRA 15:8)

(Physics—Study and teaching)
(Lebedev, Petr Nikolaevich, 1866-1912)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

LEBEDEV, Petr Nikolayevich, akademik; KRAVTS, T.P., red. (1866-1912); KAPTSOV, N.A., prof., red.; YELISEYEV, A.A., dots., red.; [illegible], red. izd-va; MAKUNI, Ye.V., tekhn. red.

[Collected works] Sobranie sochinenii. Moskva, Izd-vo AN SSSR, 1963. 434 p. (MIRA 16:9)

1. Chlen-korrespondent AN SSSR (for Kravts).
(Lebedev, Petr Nikolaevich, 1866-1912) (Physics)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

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VVEDENSKIY, B.A., glav. red.; VUL, B.M., glav. red.; SHTEYNMAN, R.Ya., zam. glav. red.; BALDIN, A.M., red.; VONSOVSKIY, S.V., red.; GALANIN, M.D., red.; ZERNOV, D.V., red.; ISHLINSKIY, A.Yu., red.; KAPITSA, P.L., red.; KAPTSOV, N.A., red.; KOZODAYEV, M.S., red.; LEVICH, V.G., red.; LOYTSYANSKIY, L.G., red.; LUK'YANOV, S.Yu., red.; MALYSHEV, V.I., red.; MIGULIN, V.V., red.; REBINDER, P.A., red.; SYRKIN, Ya.K., red.; TARG, S.M., red.; TYABLIKOV, S.V., red.; FEYNBERG, Ye.L., red.; KHAYKIN, S.E., red.; SHUBNIKOV, A.V., red.

[Encyclopedic physics dictionary] Fizicheskii entsiklopedicheskii slovar'. Moskva, Sovetskaia Entsiklopediia. Vol.4. 1965. 592 p. (MIRA 18:1)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.A.

Reminiscences of S.A.Boguslavskii, 1883-1923; on the 80th anniversary of his birth. Ist. i metod. est. nauk no.3:255-256 '65. (MIRA 18:12)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.N.

USSR/Chemical Technology - Chemical Products and Their Application. Industrial Organic Synthesis I-1

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2154

Author : Topchiyev, A.V., Kaptsov, N.N.

Inst : Academy of Sciences USSR

Title : Utilization of Nitrogen Oxide for the Nitration of Paraffinic Hydrocarbons.

Orig Pub : Sb.: Khim. pererabotka neft. uglevodorodov. M., AN SSSR, 1956, 333-336

Abstract : A study was made of the effect of temperature and space velocity on the course of the reaction of concurrent interaction of NO, O_2 and n-pentane. In the investigation use was made of a reactor with a reaction zone enclosed at the same time by a cold and a hot wall. Temperature of the preheater was varied in the range of 430-540°, that of the

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

USSR/Chemical Technology - Chemical Products and Their Application. Industrial Organic Synthesis. I-1

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2154

rection zone within 290-338°, and space velocity was varied from 0.93 to 2.30 min^{-1}. The molar ratios n-C_5H_{12} : NO : O_2 were from 1 : 0.49 : 0.44 to 1 : 0.97 : 0.6. Extent of conversion of C_5H_{12} and NO and yield of nitroparaffins reach maximum values at a temperature of the preheater of 445° and a space velocity somewhat above 1.0, and are of 17, 20 and 22%, respectively. The authors assume that the reaction between NO, O_2 and C_5H_{12} takes place within a certain zone that is intermediate between the hot and the cold wall of the reactor. A diagram of a laboratory unit for the nitration of paraffins is included.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N. N.

USSR/Organic Chemistry. Theoretical and General Questions of Organic Chemistry. E-1

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26659.

Author : Topchiyev, A.V.; Kaptsov, N.N.
Inst : Academy of Sciences of USSR. - Inst. Petroleum
Title : Primary Radical Formation in Reaction of Vapor Phase Nitrating of Alkanes by Nitrogen Dioxide.

Orig Pub : Izv. AN SSSR, Otd. khim. n., 1956, No. 7, 863 - 868.

Abstract : One of the surmised reactions at the vapor phase nitrating of alkanes by NO_2 is the formation of alkyl radicals according to the equation $RH + NO_2 \rightarrow R + HNO_3$ (1). The computations show that the change of the free energy Δz^0 at 25° is 26.6 kcal/mol at the reaction of CH_4 with NO_2, Δz^0_{298} is

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S/020/60/132/02/35/067
B011/B002

AUTHORS: Topchiyev, A. V., Academician, Kaptsov, N. N., Zalesskaya, L. N.

TITLE: Nitration of Paraoxydiphenyldimethylmethane Acetate in the Presence of Urea

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 371-373

TEXT: The authors proved that during the nitration of paraoxydiphenyldimethylmethane acetate, one of the three nitro groups enters a non-phenolic cycle of the molecule (see scheme). For the purpose of purification p-oxydiphenyldimethylmethane (ODDM) (commercial by-product of the phenol acetone production) was first recrystallized from a mixture of benzene-petroleum ether. The ODDM crystals are white, needle-shaped and have their melting point at 73°-75°. Production of the acetate: ODDM was dissolved in an aqueous KOH solution with an addition of ethanol, and 180 g of acetic anhydride were quickly added. After it was cooled down for half an hour by adding lumps of ice, or when the mixture was put on ice, the solution separated in layers. It was extracted by means of ether. When the ether was distilled off, the remaining substance was a colorless, thick liquid which could be distilled almost without decomposition at 327° at

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atmospheric pressure. The melting point of this acetate was 180°-182°/1.5 mm. The molecular weight was determined to be 250 and calculated to be 254. The acetate easily dissolves in benzene, benzine, o-xylene, and other solvents. Nitration of the acetate by means of HNO_3 at 15°-20° leads to the formation of picric acid. This can be prevented if the acetate is poured off at lower temperatures and if the reaction mass is left standing at a lower temperature. Thus low yields of a yellowish crystalline substance develop with a melting point of 127°. It was analyzed to be the trinitro derivative of p-ODDM. Its molecular weight was determined to be 356 and calculated to be 347. In order to avoid the oxidative action of HNO_3, the authors nitrated ODDM acetate in the presence of urea. Table 1 shows that in this case, the trinitro compound develops with a considerably higher yield. Urea however, must be added after the acetate has been poured off, otherwise only picric acid would develop. The position of the nitro groups was proven by oxidation with chromic acid. A small amount (0.07 g) of a solid yellow substance was obtained with a melting point between 238° and 241°. The authors compared it with para-nitro-benzoic acid whose melting point is at 241° (Scheme). There are 1 table and 4 references, 1 of which is Soviet.

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B101/B144

15.8050
11.2215

AUTHORS: Topchiyev, A. V., Academician, Kaptsov, N. N., Kalyuzhnaya, G. D., Mityayeva, A. I., and Balitskaya, I. Ye.

TITLE: Interaction of polymers and copolymers of 2-methyl-5-vinyl pyridine with aromatic nitro compounds

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 3, 1962, 621 - 624

TEXT: To test the activity of the pyridine-nitrogen atom in addition reactions, polymers (PI) of 2-methyl-5-vinyl pyridine (I) and its styrene copolymers (SI) were reacted with various polar compounds. A PI with softening point 186°C and three SI with I : styrene ratio of 5 : 1, 3 : 1, and 1 : 1 were used. To test the effect of basicity on the reaction with dinitro compounds, the SI with ratio 1 : 1 was nitrated by means of 73% HNO_3 and 24% H_2SO_4 at 20°C (decomposition of this nitro compound occurred above 200°C). 2.5%, 5%, and 10% solutions were prepared from PI and SI in a mixture 1 : 1 of dinitro toluene (DNT) and dinitro xylene (DNX); their viscosity was measured and was found to increase with length of heating. The same behavior was found in the case of nitrated SI. An

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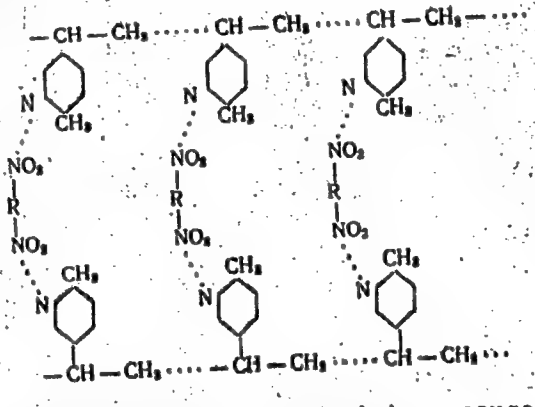
B101/B144

Interaction of polymers...

extraction of PI dissolved in DNT + DNX by means of benzene was unsuccessful. The increasingly dark red and finally dark brown polymer became insoluble in benzene, and its melting point was higher than 250°C. From this, cross linking was concluded, and the structure



was proposed. As unpurified DNT + DNX mixture caused a considerable

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

S/204/63/003/001/008/013
E075/E436

AUTHORS: Topchiyev, A.V. (deceased), Kusakov, M.M., Kalyuzhnaya, G.D., Kaptsov, N.N., Koshevnik, A.Yu., Razumovskaya, E.A.

TITLE: Characterization of the properties of homo- and copolymers of 2-methyl-5-vinylpyridine by the methods of light scattering and viscosimetry

PERIODICAL: Neftekhimiya, v.3, no.1, 1963, 90-93

TEXT: The authors determined the molecular weights and other properties of polymerized 2-methyl-5-vinylpyridine and its 1:1 copolymer with styrene. The polymerizations were carried out by heating 2-methyl-5-vinylpyridine at 80°C for 12 hours in glass ampules with 0.1% benzoylperoxide. From the light scattering and viscosimetry data the following relationship was obtained

$$[\eta] = 6.17 \times 10^{-4} M_w^{0.615}$$

where $[\eta]$ - intrinsic viscosity and M_w - mean molecular weight. The mean molecular weights of the polymer fractions obtained by

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Characterization of ...

petroleum-ether precipitation, ranged from 1×10^6 to 3×10^4. The mean molecular weights of the copolymer were 4.3×10^5 and 1.1×10^5 for the polymerization times of 12 and 6 hours respectively. There is 1 table.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR
(Institute of Petrochemical Synthesis AS USSR)

SUBMITTED: August 18, 1962

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOV, N.P., dots.; KRYLOV, A.V., dots., otv. red.

[Complex movement of a point; methodological textbook on theoretical mechanics] Slozhnoe dvizhenie tochki; uchebno-metodicheskoe posobie po teoreticheskoi mekhanike. Otv. red. A.V. Krylov, Moskva, Mosk. in-t neftekhim. i gazovoi promyshl. im. I.M.Gubkina, 1959. 17 p. (MIRA 15:2)

(Mechanics)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

AUTHOR: Kaptsova, I.N.

TITLE: The Use of Gravimeters in Underground Mining Galleries, for the Study of Mineral Depostis (O primenenii gravimetrov v podzemnykh gornykh vyrabotkakh dlya izucheniya rudnykh mestorozhdeniy) SOV/132-58-11-10/17

PERIODICAL: Razvedka i okhrana nedr, 1958, Nr 11, pp 36 - 40 (USSR)

ABSTRACT: The Kafedra gravimetrii i nebesnoy mekhaniki Gosudarstvennogo Astronomicheskogo instituta imeni P.K. Shternberga (the Chair of Gravimetry and of Celestial Mechanics of the State Astronomical Institute imeni P.K. Shternberg) organized an experimental gravimeter survey of copper ore deposit, both from the surface and from an underground gallery. The gravimeter GAK-3M was used. The experiment showed that the joint interpretation of both operations made the solution of the reversed problem of the gravimeter survey more accurate. The experiment and the solution of the problem are given in detail. There are 3 graphs, 1 table and 7 references, 4 of which are Soviet and 3 American.

ASSOCIATION: (MGU. GAISh)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

MARENNIKOVA, S.S.; KAPTSOVA, T.I.

Age-dependence of susceptibility of white mice to variola virus. Acta virol. (Praha) [Eng] 9 no.3:230-234 My'65.

1. The Moscow Scientific Research Institute of Viral Preparations, Moscow, U.S.S.R.

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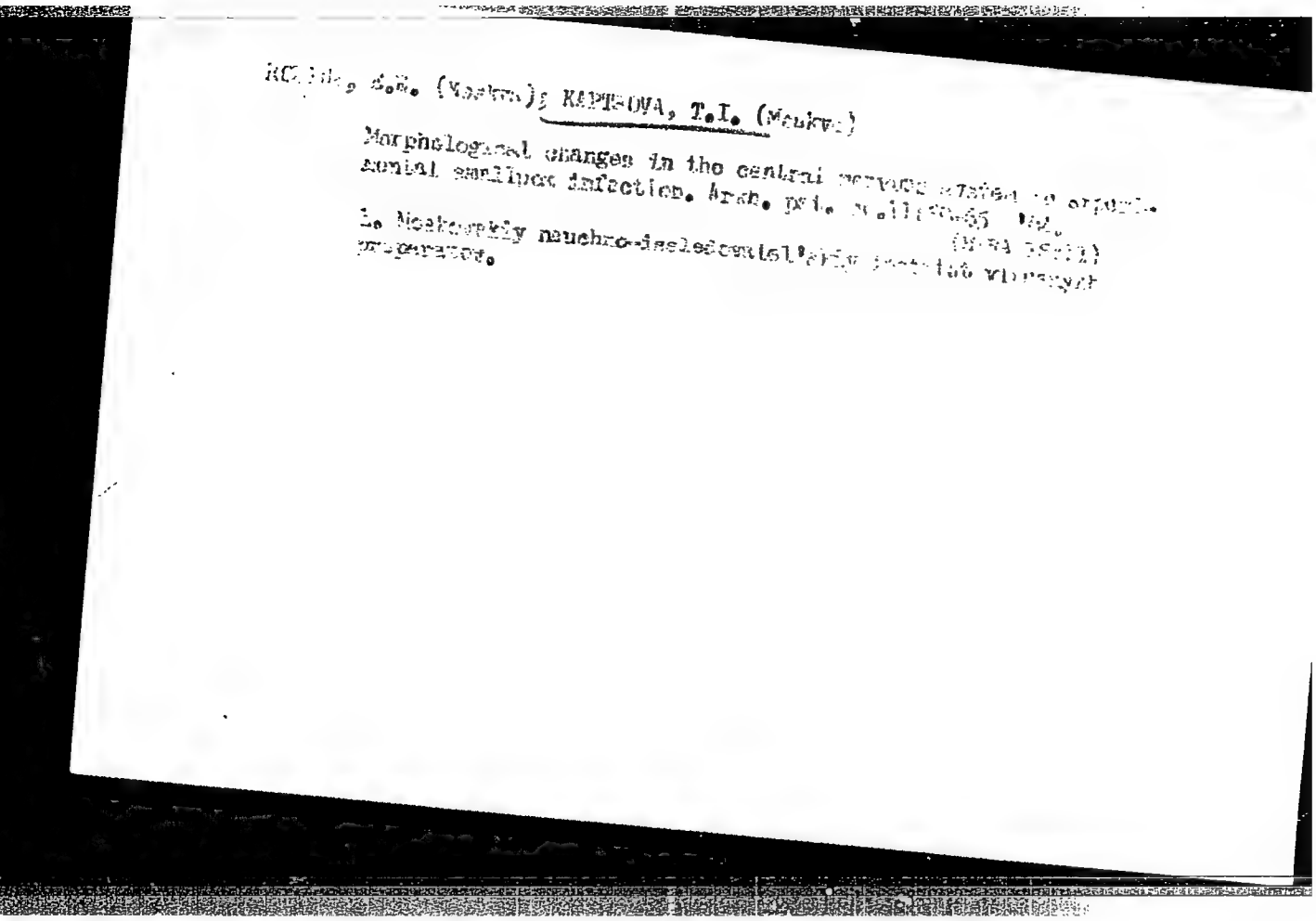

[illegible], A.M. (Moskva); KAPTSOVA, T.I. (Moskva)

Morphological changes in the central nervous system in experimental smallpox infection. Arkh. pat. 24 no.11:60-65 '62. (MIRA 15:12)

1. Moskovskiy nauchno-issledovatel'skiy institut vaktsin i syvorotok imeni Mechnikova.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

AUTHORS: Delimarskiy, Yu. K., Kaptsova, T. N. SOV/78-3-12-23/36

TITLE: Polarographic Investigation of a Solution of Titanium Dioxide in Molten Sodium Metaphosphate (Polyarograficheskoye issledovaniye rastvora dvuokisi titana v rasplavlennom metafosfate natriya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2751-2756 (USSR)

ABSTRACT: In the present paper a solution of titanium dioxide in molten sodium metaphosphate was investigated polarographically using solid stationary electrodes. The linear dependence between N and i_d was expressed by means of the following equation: $i_d = kN$ (1). In the polarogram two waves appear, which indicate the step-wise reduction of the titanium (IV) ion. The reduction apparently occurs in the following steps:

$$Ti^{4+} + e \rightarrow Ti^{3+},$$

$$Ti^{3+} + 3e \rightarrow Ti.$$

The polarographic waves plotted for the system under investigation correspond to the equation of Gcyrovskiy-Il'kovich. The half-wave potential $E_{1/2}$ is independent of the concentration.

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Polarographic Investigation of a Solution of Titanium Dioxide in Molten Sodium Metaphosphate

A linear dependence exists between E and $\lg \frac{i}{i_d - i}$. The energy of activation of the diffusion current for the first and second wave were determined. The activation energy of the first wave varies from 8.6 to 19.2 kcal/mol and the second from 20.5 to 21.4 kcal/mol. There are 5 figures, 3 tables, and 19 references, 10 of which are Soviet.

SUBMITTED: September 30, 1957

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTSOVA, T. N.

report to be submitted for the IUPAC 21st Conference and 18th Intl. Congress of Pure and Applied Chemistry, Montreal, Canada, 2-12 August 1961

ALIMARIN, I. P., and ZOLOTOV, Yu. A., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR - "Extraction of metal chelate compounds as affected by the nature of the solvent" (To be presented in Russian) (Section C.2 - 11 Aug 61, morning)

BAGDASAR'YAN, Kh. S., and KROKHAUZ, V. A., Scientific Research Physico-Chemical Institute imeni L. Ya. Karpov, Moscow - "Some aspects of energy transfer in radiation chemistry" (Section A.1, Session II - 7 Aug 61, morning)

DELIMARSKIY, Yu. K., Institute of General and Inorganic Chemistry, Academy of Sciences UkSSR, Kiev - "The kinetics of the electrode processes in the electrolysis of melted salts" (Section B.3 - 10 Aug 61, morning)

DELIMARSKIY, Yu. K., ANDREYEVA, V. N., DOYKA, K. M. (Possibly VOYKA, K. M.), NAZARENKO, G. D., and KAPSOVA, T. N., Institute of General and Inorganic Chemistry, Academy of Sciences UkSSR, Kiev - "Electrochemical experiment with melted borate and phosphate" (Section A.3, c, (2), Session I - 11 Aug 61, morning)

DELIMARSKIY, Yu. K., PANCHENKO, I. D., and SHILINA, G. V., Institute of General and Inorganic Chemistry, Academy of Sciences UkSSR, Kiev - "On the convection diffusion in melted salts" (Section B.3 - 9 Aug 61, afternoon)

GERASIMOV, Ya I., Moscow State University imeni M. V. Lomonosov, (Co-Chairman, Section A.3,c,(2), Session I(B), 11 Aug 61, afternoon)

GERASIMOV, Ya. I., LAVRENT'YEV, V. I., KUZNETSOV, F. A., and REZUKHINA, T. N., Moscow State University imeni M. V. Lomonosov - "The thermodynamic properties of columbium and cerium oxides" (Section A.3,c,(3), Session II(A), 11 Aug 61, morning)

GOL'DANSKIY, V. I., Institute of Chemical Physics, Academy of Sciences USSR - "Two-proton radioactivity - a new kind of radioactive decay of nuclei" (Section A.4 - 7 Aug 61, morning)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

L 17703-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/WH

ACCESSION NR: AP3003994 S/0073/63/029/007/0714/0722

AUTHORS: Kaptsova, T. N.; Delimarskiy, Yu. K.

TITLE: Polarographic analysis of vanadium, molybdenum, tungsten, and iron oxides fused with sodium methaphosphate

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 29, no. 7, 1963, 714-722

TOPIC TAGS: germanium, vanadium, tungsten, molybdenum, polarography, iron, sodium

ABSTRACT: This study is a continuation of a previous polarographic study of metal oxides in a fused media of sodium metaphosphate. The present study is made of GeO_2, V_2O_5, MoO_3, WO_3, and Fe_2O_3 oxides in the same media. The reduction of germanium takes place in a stepwise procedure with subsequent formation of phosphides. At low concentrations of GeO_2, only one break is observed. It was established that the oxides of vanadium, tungsten and molybdenum are reduced only to their trivalent state during the electrolysis in the phosphate bath as established by polarographic analysis. The reduction of iron oxide takes place in two stages. Their half-wave potentials are close to each other. The obtained polarographic maximums are explained by the depolarizing action of the adsorbed products of electrolysis at the electrode. The activation energy of the diffusion current was calculated for all studied oxides. Orig. art. has: 3 tables,

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L 17703-63
ACCESSION NR: AP3003994

8 figures, and 9 formulas.

ASSOCIATION: Institut obschey i neorganicheskoy khimii AN UkrSSR (Institute of general and inorganic chemistry, Academy of Sciences, UkrSSR)

SUBMITTED: 26Jul62 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: CH, EL NO REF SOV: 009 OTHER: 002

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

DELIMARSKIY, Yu.K.; ANDREYEVA, V.N.; KAPTSOVA, T.N.

Reaction of metal oxides with fused sodium metaphosphate. Izv. AN SSSR. Neorg. mat. 1 no.1:150-155 Ja '65. (MIRA 18:5)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

CHKANIKOV, D.I., kand.sel'skokhozyaystvennykh nauk, KAPTSYNEL', Yu.M.

Herbicidal action of aliphatic chlorinated carboxylic acids. Izv. TSKhA no.6:80-92 '60. (MIRA 13:12)
(Acids, Fatty) (Herbicides)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTURENKO, A.M.

Introducing the economic accountability in planning organizations.
Transp. stroi. 9 no.11:40-41 N '59 (MIRA 13:3)

1. Starshiy ekonomist Glavtransproyekta.
(Building research) (Construction industry--Accounting)

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All Inclusive

PHASE I BOOK EXPLOITATION SOV/3226

Nezhuzovskaya nauchno-tekhnicheskaya konferentsiya po temu: "Sovremennyye dostizheniya prokatnogo proizvodstva."

Trudy...(Transactions of the Intercollegiate Scientific and Technical Conference on Recent Achievements in the Rolling Industry) Leningrad, 1958. 251 p. 1,000 copies printed.

Sponsoring Agencies: Leningradskiy politekhnicheskiy institut im. M.I. Kalinina, Nauchno-tekhnicheskoye obshchestvo mashinostroitel'nyy, Leningradskoye otdeleniye, and Nauchno-tekhnicheskoye obshchestvo metallurgov, Leningradskoye otdeleniye.

Resp. Ed.: V.S. Smirnov, Doctor of Technical Sciences, Professor; Ed.: N.N. Pavlov.

PURPOSE: These proceedings of the conference are intended for specialists in the rolling industry.

COVERAGE: The articles of this collection cover various theoretical and practical problems of rolling, such as: pressure, spread, efficiency of rolls, determination of deformation, forces required, pass design, optimum conditions for rolling, experiences of various plants, modernization of equipment, aluminum-clad steel, and rolling of nonferrous metals. No personalities are mentioned. References appear after each article.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KARTUKOV, L. Ye.

PHASE I BOOK EXPLOITATION SOV/3611

Dnepropetrovsk. Metallurgicheskiy institut

Obrabotka metallov davleniyem (Metal Forming) Khar'kov, Metallurgizdat, 1960. 326 p. (Series: Its: Nauchnyye trudy, vyp. 39) 2,100 copies printed.

Ed.: A.P. Chekmarev; Ed. of Publishing House: R.A. Zelina; Tech. Ed.: S.P. Andreyev.

PURPOSE: This collection of articles is intended for technical and scientific personnel in metallurgy and in mechanical engineering. It will also be of interest to designers of rolling equipment.

COVERAGE: This collection of articles treats the theory of rolling. It discusses such factors as the total and the unit pressures of the work on rolls, seams of rolling, forward slip, spread, etc. It also includes results obtained from investigation of rail quality rolling of cast iron sheets, and other problems. No personalities are mentioned. References follow each article.

Chekmarev, A.P. [Academician of the UkrSSR], L.Ye. Kartukov, and P.P. Klimenko [Engineers]. Experimental Investigation of Distribution of Unit Pressures on a Contact Surface in Rolling in Plain Rolls 5

The investigation was carried out to develop a reliable method of measuring unit pressure on the contact surface, and to obtain, by measurement, data on distribution of unit pressure during rolling with various drafts of strips having various initial thicknesses and widths.

Chekmarev, A.P., and P.P. Klimenko. Experimental Investigation of Distribution of Unit Pressure on the Contact Surface During Rolling in Grooved Rolls 30

Chekmarev, A.P., and Rudoy, V.S. [Candidate of Technical Sciences, Institut chernoy metallurgii AN UkrSSR and Vsesoyuznyy nauchno-issledovatel'skiy trubnyy institut - Institute of Ferrous Metallurgy of the Academy of Sciences of the Ukrainian SSR and the All-Union Scientific-Research Institute for Pipe]. The Contact Surface, and Pressure on Rolls in Pilger [Rocking] Rolling 53

The authors present new methods for measuring pressure on rolls in a Pilger mill, for rolling pipes with 219, 273 and 225 mm diameters, and for determining the instant area of contact.

Yatkin, Yu.K. [Candidate of Technical Sciences]. Pressure on Rolls in Rotary Rolling of Tubes on a Short Mandrel 73

The author compares experimental data on the total and unit pressures with the results obtained through using formulas the author derived.

Chekmarev, A.P., V.M. Klisenko, M.M. Sat'yan, V.P. Chekhranov, and S.N. Rabinovich [Engineer]. Pressure on Rolls in Slabbing Mill 93

The authors describe the methods, instruments, and results of an investigation carried out at the "Zaporozhstal'" mill on horizontal and vertical rolls at slab rolling.

Sat'yan, M.M. [Candidate of Technical Sciences]. Experimental Investigation on the Lever-Arm of Moments in Cold Rolling 104

The author describes investigation on the above subject, and gives the total pressure on rolls in cold rolling of steel sheets 1, 2, 3, and 4 mm thick at various drafts.

Chekmarev, A.P., and M.M. San'ko [Candidate of Technical Sciences]. Forward Slip in Shape Rolling 127

The author describes methods of designing shaped rolls in respect to forward slip; the method is based on experiments with right-angular, square, rhombic, oval, and circular grooves.

Mutlyev, M.M. [Candidate of Technical Sciences]. Derivation of a Formula for Spread of Rolling on Plain Rolls 152

The author presents a method of calculation of spread in rolling. It is based on theoretical determination of stresses in the contact area in transverse and longitudinal directions.

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PHASE I BOOK EXPLOITATION SOV/3611

Dnepropetrovsk. Metallurgicheskiy institut

Obrabotka metallov davleniyem (Metal Forming) Khar'kov, Metallurgizdat, 1960. 326 p. (Series: Its: Naukhnyye trudy, vyp. 39) 2,100 copies printed.

Ed.: A.P. Chekmarev; Ed. of Publishing House: R.A. Belina; Tech. Ed.: S.P. Andreyev.

PURPOSE: This collection of articles is intended for technical and scientific personnel in metallurgy and in mechanical engineering. It will also be of interest to designers of rolling equipment.

COVERAGE: This collection of articles treats the theory of rolling. It discusses such factors as the total and the unit pressures of the work on rolls, moments of rolling, forward slip, spread, etc. It also includes results obtained from investigation of rail quality, rolling of cast iron steels, and other problems. No personalities are mentioned. References follow each article.

Chekmarev, A.P., and M.F. Chepurko (Candidate of Technical Sciences). Deformation of Metal in the Manufacture of Pipe 173
The authors present a method for determination of local (layer) deformations for any element of pipe in the focus of deformation, at various manufacturing processes (rolling, drawing, rotary rolling) in order to determine the most suitable process for given conditions.

Chekmarev, A.P., Ya.S. Pinkel'shteyn (Candidate of Technical Sciences), and I.K. Ludonosiy (Engineer). Kinematics of the Process of Helical Rolling 191
The authors try to explain in a new way a number of phenomena occurring during helical rolling, the kinematics of the process magnitude and direction of forces in the contact area, slip of metal, and the ways of intensification of the process of helical rolling.

Galetin, M.F. (Candidate of Technical Sciences). Effect of Size and Shape of Trapezoidal Roll Passes on the Quality of Rails 221
The article deals with experiments undertaken by the author in order to determine the effect of the conditions of deformation at rolling on elimination of defects in rails. The practical recommendations concerning the shape passes and magnitude of drafts are presented.

Chekmarev, A.P., A.P. Grudev (Candidate of Technical Sciences), and V.G. Zhuk (Engineer). Cold Rolling of Annealed Cast Iron Sheet 231
The authors describe process of removing defects on cast iron sheets either by hot or by cold rolling

Nikolayenko, Ye.G. (Engineer), S.I. Vitenzon (Candidate of Technical Sciences), and L.D. Stepanova (Engineer). Effect of Cold Deformation on the Properties of Cast Iron Sheets 243
Effect of cold hardening, recrystallization, number of passes, and amount of drafts on the ductility and strength of cast iron sheets is discussed.

Yatkin, Ya.I. (Candidate of Technical Sciences), I.D. Kronfel'd, S.V. Rozhnov, and I.A. Chekmarev (Engineers). Investigation of Pressure on Rolls and Power Consumption at Rolling Pipe in Continuous Rolling Mill With Long Mandrel 25
The authors discuss the distribution of pressure on rolls, the effect of wall thickness and amount of additional alloy in steel on the pressure of the rolls. They give formulas for determination of unit and total roll pressure, and for power consumption in continuous rolling.

Chekmarev, A.P., and L.Ye. Kapturov. Experimental Investigation of Unit Pressures in ASE Rolling 278
The authors conducted a laboratory investigation in the Dnepropetrovsk Metallurgical Institute on determination of magnitude, and distribution pattern of the unit pressure in the contact area at rolling of teel and, of various thickness and with various drafts.

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

S/137/61/000/006/026/092
A006/A101

AUTHORS: Chekmarev, A.P., Kapturov, L.Ye., Klimenko, P.L.

TITLE: Experimental investigation of the distribution of specific pressure over the contact surface during rolling on smooth rolls

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 6, 1961, 1 abstract 6D4 ("Nauchn. tr. Dnepropetr. metallurg. in-t", 1960, no. 39, 5 - 29)

TEXT: The authors substantiate a method selected for investigating specific pressures with the aid of a dynamometer functioning with a glued-on wire resistance pickup of a surface subjected to stretching. The investigations were made on a laboratory two-high mill with rolls of 260 mm diameter and 350 mm length. The experimental methods are described in detail. Pb-strips of 22, 16, 10, 6, 4 and 2 mm thickness, 50, 35 and 20 mm width, and 350 mm length each, were rolled, and it was established that: 1) specific pressures are non-uniformly distributed across the deformation seat; over its length they are highest in the center and least at the edges; 2) the absolute magnitude of specific deformation decreases with a reduced width of the strip; 3) during rolling of thick strips with a reduction of $\leq$ 23% tensile stresses arise which entail a decrease

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Experimental investigation ...

of specific pressure on the contact surface. To investigate the distribution of specific pressure during non-uniform deformation, special concave and convex Pb-specimens were rolled. It was found that compressive stresses increased the specific pressure in strip sections subjected to stronger compression and that tensile stresses reduced the specific pressure in less compressed sections of the strip.

V. Pospekhov

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

CHEKMAREV, A.P., akademik; KAPTUROV, L.Ye., inzh.

Experimental investigation of specific pressures in hot rolling. Nauch. trudy IMI no.39:278-292 '60. (MIRA 13:10)

1. AN USSR (for AN USSR).
(Rolling mills)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

CHEKMAREV, A. P., akademik; KAPTUROV, L. Ye., inzh.; RABINOVICH, S. N., inzh.

Metal pressure on rolls and cogging conditions on a three-high sheet rolling mill in the Novo-Kramatorsk machinery plant. Nauch. trudy DMI no.48:239-249 '62. (MIRA 15:10)

1. Akademiya nauk Ukrainskoy SSR (for Chekmarev).

(Kramatorsk—Machinery industry)
(Rolling(Metalwork)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

CHEKMAREV, A. P., akademik; RABINOVICH, S. N., inzh.; KAPTUROV, L. Ye., inzh.

Investigating the grooving and the wear of rolls on a two-high thin sheet rolling mill. Nauch. trudy DMI no.48:250-256 '62. (MIRA 15:10)

1. Akademiya nauk Ukrainskoy SSR (for Chekmarev).

(Rolls(Iron mills)). (Mechanical wear)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

CHEKMAREV, A. P., akademik; RABINOVICH, S. N., inzh.; KAPTUROV, L. Ye., inzh.; MASHKIN, L. F., inzh.

Automatic shape adjustment of sheet mill rolls by means of a mechanical grinding device. Nauch. trudy LMI no.48:265-274 '62. (MIRA 15:10)

(Rolls(Iron mills)) (Grinding and polishing)
(Electronic control)

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTUROV, L. Ye., inzh.

Experimental investigation of the effect of rolling speed on specific pressure. Nauch. trudy DMI no.48:311-315 '62.
(MIRA 15:10)

(Rolling(Metalwork))

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTUROVA, S. I.

Kinetics of nitric acid formation in a rapidly revolving mechanical absorber at high rotational speed. S. N. Ganz and S. I. Kapturova. *J. Appl. Chem. U.S.S.R.* 28, 555-64(1955)(Engl. translation).—See *C.A.* 50, 34i.

D. M. R.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTUROVA, S. I.

Subject : USSR/Chemistry AID P - 3489

Card 1/1 Pub. 152 - 4/21

Authors : Ganz, S. N. and S. I. Kapturova

Title : Kinetics of formation of nitric acid in mechanical absorbers with a large number of revolutions

Periodical : Zhur. prikl. khim., 28, 6, 585-596, 1955

Abstract : In mechanical absorbers with a large number of revolutions the gas is thoroughly mixed with the liquid, and the oxidation of NO to NO_2 proceeds at a higher rate. Two tables, 13 diagrams, 12 references, all Russian (1900-1953).

Institution : None

Submitted : N 4, 1953

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

DELIMARSKIY, Yu. K.; KAPTSOVA, T. N.; BOYKO, K. M.

Polarographic investigation with fused sodium metaphosphate as the support. Ukr. khim. zhur. 28 no.5:595-599 '62.
(MIRA 15:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

(Polarography) (Sodium metaphosphate)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

DELIMARSKIY, Yu.K.; KAPTSOVA, T.N.

Polargraphic investigation with fused sodium metaphosphate as the support. Part 2: Polarography of copper, silver, cadmium, and lead oxides. Ukr. khim. zhur. 28 no.7:802-802 '62. (MIRA 15:12)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Metallic oxides) (Polarography)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

CHEKMAREV, A. P., akademik; KAPTUROV, L. Ye., inzh.; RABINOVICH, S. N., inzh.

Metal pressure on rolls and cogging conditions on a two-high thin sheet rolling mill. Nauch. trudy DMI no.48:257-264 '62. (MIRA 15:10)

1. Akademiya nauk Ukrainskoy SSR (for Chekmarev).

(Rolling(Metalwork))

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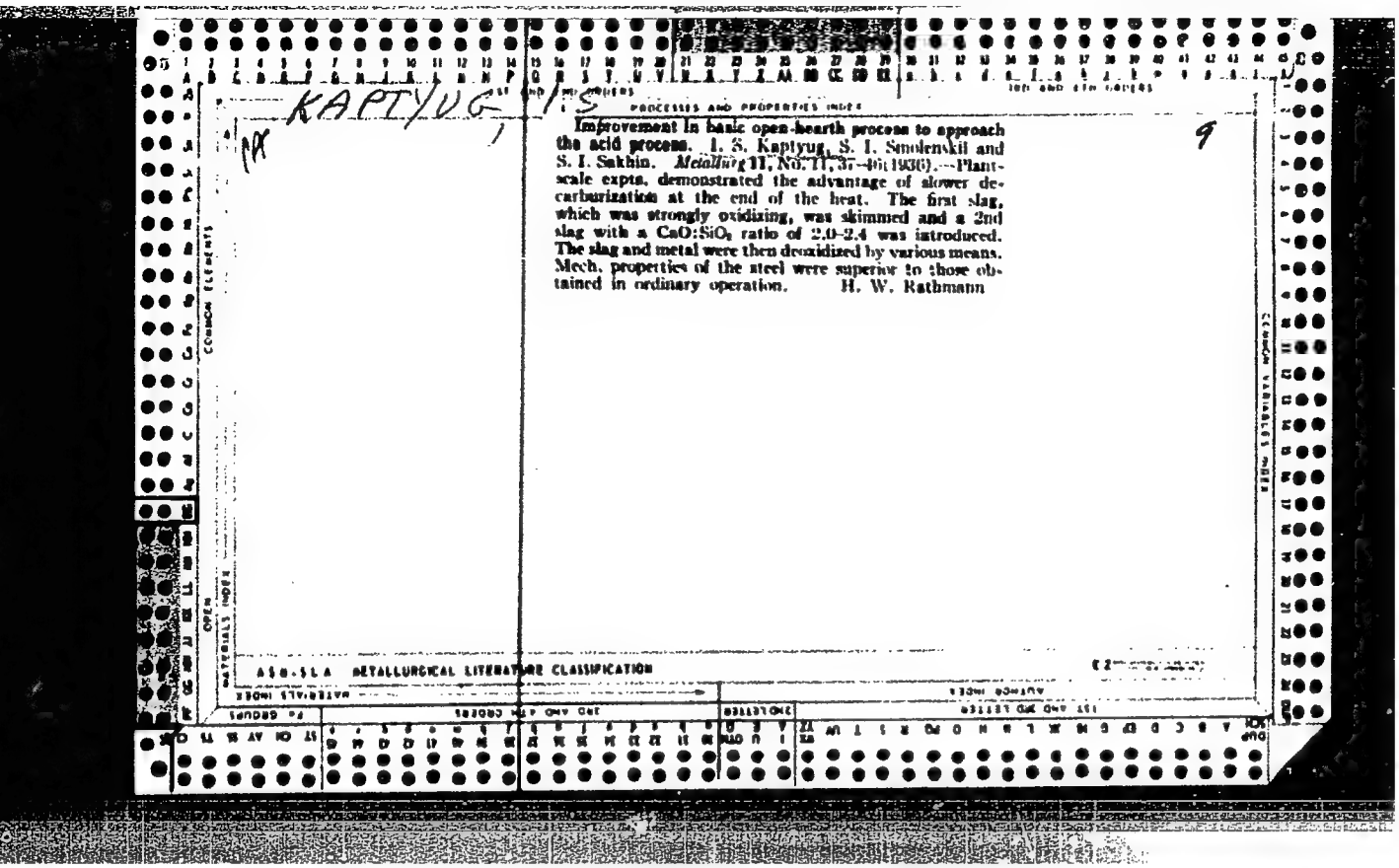

KAPTYUG I S

Improvement in basic open-hearth process to approach the acid process. I. S. Kaptyug, S. I. Smolenskii and S. I. Sakhin. *Metallurg* 11, No. 11, 37–49 (1936).—Plant-scale expts. demonstrated the advantage of slower decarburization at the end of the heat. The first slag, which was strongly oxidizing, was skimmed and a 2nd slag with a $CaO:SiO_2$ ratio of 2.0–2.4 was introduced. The slag and metal were then deoxidized by various means. Mech. properties of the steel were superior to those obtained in ordinary operation. H. W. Rathmann

A53-51A METALLURGICAL LITERATURE CLASSIFICATION

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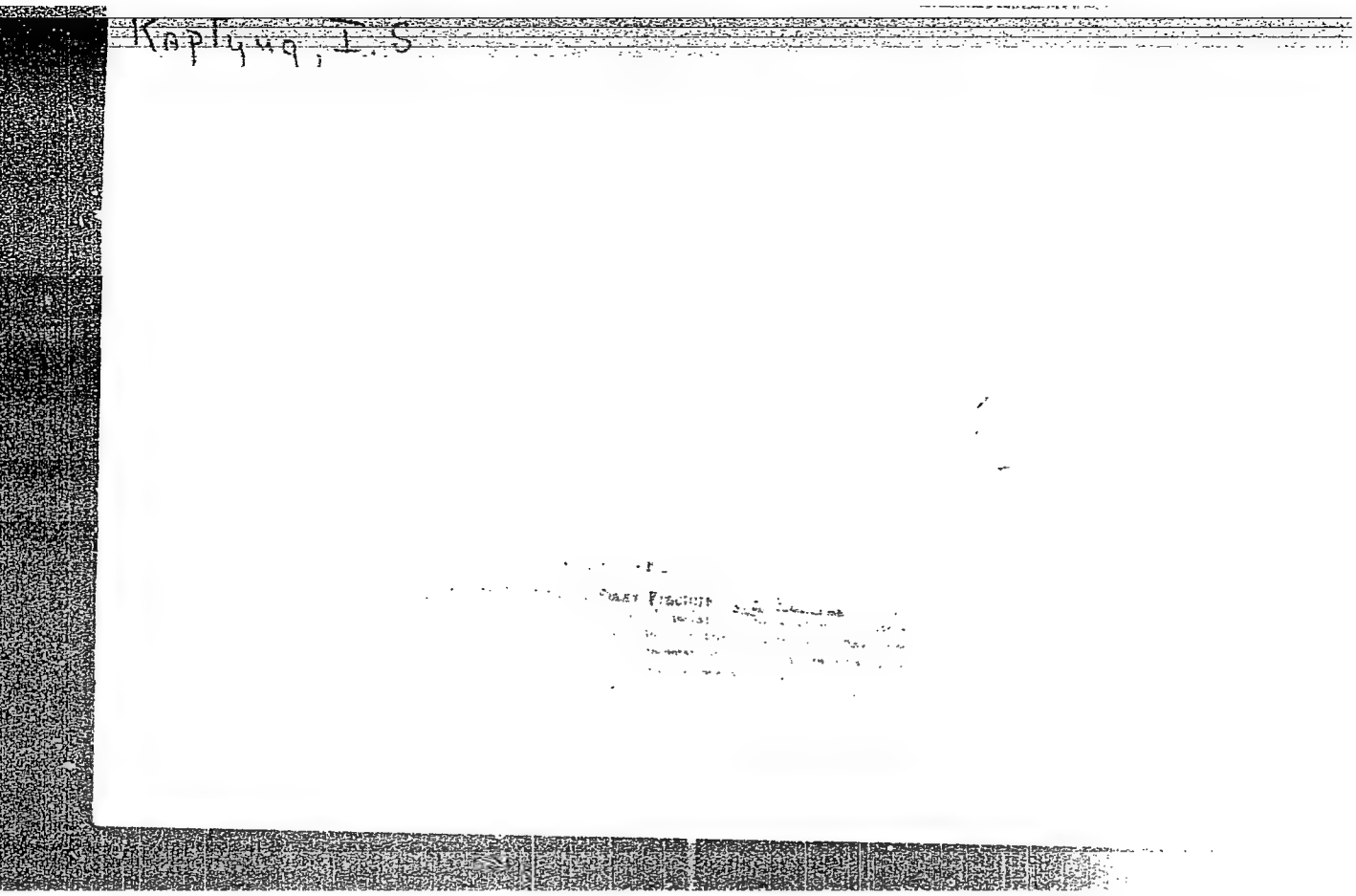

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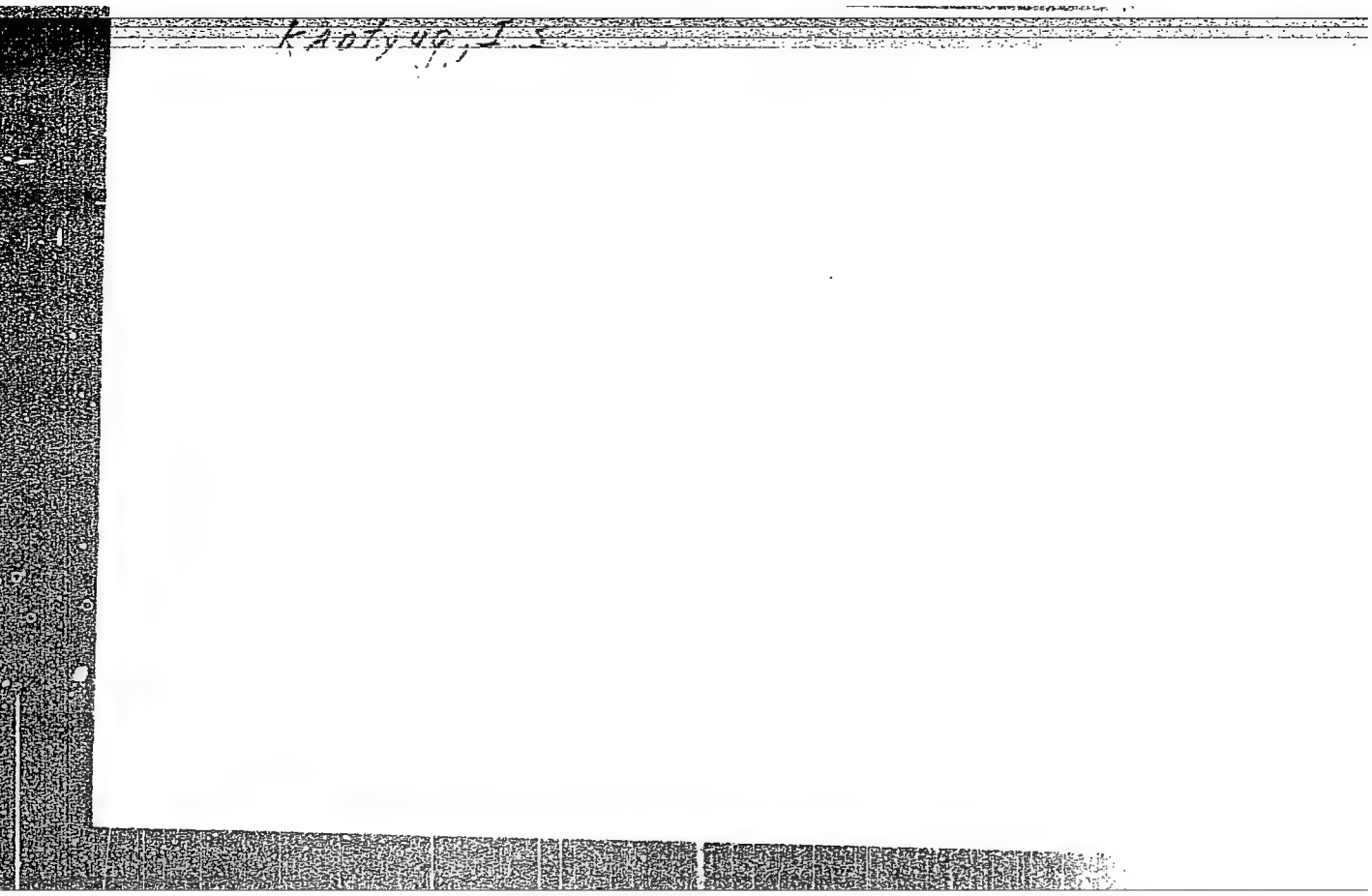

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

Kaptyug, I.S.

137-58-1-1765

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 240 (USSR)

AUTHOR: Kaptyug, I. S.

TITLE: On Woody Fracture of Steel (O shifernom izlome stali)

PERIODICAL: V. sb.: Metallovedeniye. Leningrad, Sudpromgiz, 1957, pp 253-263

ABSTRACT: A critical analysis is presented of the results of some researches on schistose woody fracture in steel, and a discussion is presented of the connection between the manifestation of schistosity and the state of the metal at the moment of fracture testing. It is shown that schistosity and exfoliation do not exist in schistose metal before fracture testing as defects characteristic of disruption of the integrity of the metal. They develop in the testing process, and only in that portion of the volume of the specimen which undergoes serious plastic deformation prior to the moment of fracture of the specimen. In steel predisposed to formation of schistosity or exfoliation, no heat treatment is capable of eliminating these defects from fibrous fracture. When fibrous or woody fracture is replaced by crystalline fracture, the appearance of schistosity is impaired or prevented, but this does not improve

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

On Woody Fracture of Steel

the quality of the steel. The formation of woody fracture of steel is intimately related to contamination thereof by non-metallic inclusions, while the formation of crystalline fracture does not depend upon their presence in the steel. It is recommended that an evaluation of the quality of steel for tendency to schistosity and exfoliation be made on transverse sections, and that the testing of notched specimens to fracture be done slowly under a press.

N. K.

1. Steel--Fracture--Analysis

Card 2/2

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

KAPTYUG, I.S., kand.tekhn.nauk; SYSHCHIKOV, V.I., inzh.

Some results of testing titanium and its alloys for friction and wear. Sudostroenie 24 no.8:46-48 Ag '58. (MIRA 11:10)
(Titanium--Testing)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4"

"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

SOV/129-59-4-5/17

AUTHORS: Kaptyug, I.S. (Candidate of Technical Sciences) and Syshchikov, V.I. (Engineer)

TITLE: Influence of Alloying on the Friction Properties of Titanium (Vliyaniye legirovaniya na friktsionnyye svoystva titana)

PERIODICAL: Metallovedeniye i Termicheskaya Obrabotka Metallov, 1959, Nr 4, pp 22-27 (USSR)

ABSTRACT: The authors investigated the friction properties of some titanium alloys produced in an induction furnace from a de-gassed sponge metal containing 0.01% C, 0.14% Si, 0.16% Fe, 0.08% Mg. The smelting and the alloying were effected in graphite crucibles in an argon atmosphere. The chemical compositions and the mechanical properties of the heats are entered in Table 1 (p 23), and it can be seen that 0.38 - 0.80% C passed from the crucibles into the alloy. Ingots of 70 - 90 mm diameter were forged into rods of 15 mm diameter which were then cooled in air. From the latter, specimens were produced for tensile tests and also for friction tests. In the experiments the coefficient of friction and the tendency to seizing were investigated (at specific pressures of 10, 100 and 300 kg/cm^2; at each of these 30 sliding

Card 1/3

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"APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720510020-4

Influence of Alloying on the Friction Properties of Titanium

motions were made), as well as the wear resistance, the hardness and the microstructure. The obtained results are entered in tables and plotted in graphs. The authors arrived at the following conclusions: 1) Alloying of titanium brought about only a slight reduction in the static friction coefficient (from 0.55 to 0.45 in a rubbing pair with titanium and from 0.20 to 0.15 in a rubbing pair with brass) and in the depth of penetration of the damage in the case of dry sliding friction. 2) Titanium and the investigated titanium alloys proved to have a very low wear resistance against sliding friction; the wear was 15 - 30 times as high as that of brass, bronze or stainless steel. 3) The investigated titanium alloys as well as pure titanium are unsuitable for components subjected to friction under high pressure. However, they can be used in rubbing pairs with brass or

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Influence of Alloying on the Friction Properties of Titanium

bronze in the case of relatively low loads.
There are 5 figures and 4 tables.

Card 3/3

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KAPTYURINA, Anna Dmitriyevna

[Lumbosacral radiculitis] Poiasnichno-kresttsovyi radikulit. Moskva, Medgiz, 1960. 15 p. (MIRA 13:8)
(NERVES, SPINAL--DISEASES)

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KAPTYUSHIN, I., prepodavatel'

Instruction maps in laboratory work. Prof.-tekh. obr. 17 no. 11:13 N '60. (MIRA 13:12)

1. Uchilishche mekhanizatsii sel'skogo khozyaystva No 32, Saratovskaya oblast'.
(Farm mechanization--Study and teaching)

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KAPTYUSHIN, I., prepodavatel'

Final lesson. Prof.-tekh.obr. 19 no.1:10 Ja '62. (MIRA 15:1)

1. Borskoye uchilishche mekhanizatsii sel'skogo khozyaystva No.1, Kuybyshevskaya oblast'.
(Farm mechanization--Study and teaching)

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DARKANBAYEV, T.B.; KAPTYUSHINA, G.A.

Sugar and starch content of grain and flour of Kazakhstan. Izv. AN Kazakh.SSR.Ser.biol.no.10:87-93 '55. (MIRA 9:4)

1.Institut botaniki AN KazSSR.
(KAZAKHSTAN--WHEAT)

Kazakhstan wheat grains contained reducing sugars 0.17-0.22, sucrose 2.43-3.3, and starch 50.5-66.0%; 72% yield flour contained reducing sugars 0.15-0.2, sucrose 1.76-2.25, and starch 70.41-75.63%. Generally the grain of hard wheat contained more sucrose than that of soft wheat.

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KAPTYUSHINA, G.A., Cand Bio Sci--(diss) "Biochemical indicators and breadbaking properties of certain new varieties of Kazakhstan wheat." Alma-Ata, 1958. 21 pp (Min of Higher Education USSR. Kazakh State U im S.M. Kirov), 150 copies (KL,30-58,125)

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